



STEM By Nature and UN Sustainable Development Global Goals

See below for some **nature-based** ideas, activities and resources to explore some of the UN Global Goals (#2 Zero Hunger, #6 Clean Water and Sanitation, #11 Sustainable Cities and Communities, #12 Responsible Consumption and Production, #13 Climate Action, #14 Life Below Water and #15 Life on Land).

#1 numbers in italics refer to actions from [‘How you can save the planet’](#) by Hendrikus van Hensbergen

#2 Zero Hunger

Issue: Producing enough food and protecting the environment.

How can we achieve food security and promote sustainable agriculture?

How can we make space for nature?

Learn more: [Good Life Goals: Pack of Actions: ‘eat better’ P4](#)

[Make Space for Nature](#): why Biodiversity is key. See land use in Britain film

[‘UK in 100 seconds’](#); [Nourish Scotland’s Food Atlas](#); Global Goals [Circular economy and modern agriculture lesson plan](#) and [Mission: Explore Food](#): 159 food-related ‘missions’

Buy seasonal and local: campaign for planet friendly food and farming see [Soil Association](#), [Food Tales](#) (telling the journey that food has taken), [Food miles calculator](#), [Garden Organic](#) and [Food Cooperatives](#).

Eat less meat and dairy: (*#14 design a guide to sustainable food choices and #33 persuade your school to provide more meat free options or days*)

Grow your own or forage for wild foods– see [School Gardening](#) and [Foraging wild food](#)

Companion plant for pollinators: see a portfolio of [Pollinators in Action](#)

Reduce waste (compost): see [The Importance of Earthworms](#) and [Spark of Science Food waste](#)

Protect soil and go (*#13. Peat free*) – see [The World Beneath our Feet](#).



#6 Clean Water and Sanitation

Issue: Ensure availability and sustainable management of water and sanitation.

Learn more: [Mission: Explore Water](#) you’ll find 51 water-related missions, covering rain, using Water and waste. [Teachers Notes](#) (example Missions: make rain catchers, Create water cycle in a bottle, collect clouds, impact of rain on wildlife, make a water filter, grow a one litre garden, reduce water at home)

Inform and influence others about the value of water: [Scotland’s Wetlands](#) and [Clean Water for Wildlife](#)



Monitor rainfall: see [Rainfall Observers](#)

Create a rain garden [10K Raingardens for Scotland:](#) (areas of plants and vegetation designed to absorb water, reduce flooding and help to protect our rivers and waterways).

#11 Sustainable Cities and Communities

Issue: Inclusive, safe, resilient and sustainable human settlements.

How can we make space for nature in our human settlements? What can we learn from nature's adaptability?

Learn more: [Good Life Goals: Pack of Actions:](#) 'love where you live' P13

[Make Space for Nature:](#) Tree or hedge plant - (#4, a tree will soak up 1 ton of carbon in 40 years) – see [Tiny Forests](#)

Create or restore habitats (#5, plant for pollinators, #6 rewild your green space) see [wildlife gardening](#);

Remove non-native [invasive species](#).

Campaign to make your city greener- Campaign for [National Park Cities](#)

Discover the learning potential of your local greenspace: see [Learning in Local Greenspace](#)

Stay local UK (#27 let's not fly); active travel (#10, start a school walk or cycle club) see [Sustrans](#); and (#28 campaign to reduce car use in your local area) see [Campaign for Better Transport](#).

Explore migration (animals/ human): see the RSPB [Migratory Birds stories](#); Open Hearts Open Borders [resource](#); [The Moth Migration](#) project and [Moths Count](#) and an artist exploring bird and human migration: [Derek Robertson exhibition](#)



12 Responsible consumption and production

Issues: Responsible consumption, use and overuse of natural resources.

How can we reduce our impact on the natural world? How can we design for a better world? How can we learn from nature?

Learn more: [Good Life Goals: Pack of Actions](#) 'live better' P12

Measure your [Ecological footprint](#)

Use less and reduce pollution: (*and try plastic free #17*) - see Practical Action's [Plastics Challenge](#), [Story of Plastics](#); [Redesigning Plastic Packaging lesson plan](#) and technical solutions [example](#)

Use renewable, buy second-hand (#15 organise a swap shop), by [Fairtrade](#).

Refuse, reduce, reuse, recycle (#16 make stuff from recycled products – upcycling) see [How We Make Stuff](#)

Take part in litter cleans ups and campaigns – see [Keep Britain Tidy](#) and measuring [biodegradability](#)

Design for a better world: see [Biomimicry](#), [Ask Nature](#) and [Design for a better world](#) competition.



13 Climate Action

Issue: How can nature help combat climate change and its impacts?

What is biodiversity loss? Why should we try to halt it? How?

Learn more: Scotdec: Goal 13 Climate Action [resources](#), Worlds' Largest Lesson Climate Change [lesson plan](#) and [Biodiversity & Climate Change Education Park](#),

Campaign against climate change: See [Young Reporters for the Environment](#), [Campaign against Climate Change](#) and [Show the Love](#) campaign.

Inform and influence others about [Natural Climate Change](#) solutions (including wetland/ peatlands, marine permaculture, wave energy) see [Project Drawdown](#)

Take part in Citizen Science – see [Nature's Calendar](#) (seasons, climate and phenology), [The Big Seaweed Search](#) (climate change impacts on the seashore) and [Rainfall Observers](#) (observe and record Scotland's



rainfall).

Create a [raingarden](#): (area of plants and vegetation designed to absorb water, reduce flooding and help to protect rivers and waterways).

Explore renewable energy: energy, science, sustainability resources: [The Pod](#)

Reduce your energy at home, school and work see the [Energy Saving Trust](#).

#14 Life Below Water

Issues: protecting marine habitats, reducing pollution, sustainable use of ocean resources

Learn more: see [Marine Conservation Society](#), [World Oceans Day](#), [Global Ocean](#) and [Sea change](#)

Reduce plastic pollution: [Blue Planet Live](#), [Common Seas](#) and [Surfers Against Sewage](#)

Carry out a beach clean: [Nurdle Hunt](#), [#2minutebeachclean](#) and [Take 3 for the sea](#)

Take part in Citizen Science: see The [Seawatch Society](#) and [The Big Seaweed Search](#)

Choose sustainable fish to eat: see the [Good Fish Guide](#).



#15 Life on Land

Issue: land use and deforestation.

How can we protect, restore and promote sustainable management of forests?

Learn more: Scotdec: Goal 15 Life on Land [resources](#)

[Make Space for Nature](#): Tree or hedge plant - (#4, a tree will soak up 1 ton of carbon in 40 years) – see [Tiny Forests](#); habitat creation or restoration - (#5, plant for pollinators, #6 rewild your green space); remove non-native [invasive species](#).

Campaign to make your city greener- campaign for [National Park Cities](#)

Get creative and celebrate biodiversity in woodlands: [The Lost Words](#)

Issue: protecting and restoring terrestrial ecosystems including inland freshwater ecosystems and wetlands. Promoting biodiversity and reducing the impacts of invasive alien species

Learn more: [Mission:Explore Water](#) you'll find 51 water-related missions [Teachers Notes](#) and [Freshwater Habitat Trust](#)

Get creative and celebrate biodiversity in freshwater: [The Lost Words](#)

Take part in Citizen Science: [Kick Sampling](#) and [Big Spawn Count](#)

Help fish populations: see Salmon in the Classroom- [Ayrshire River's Trust](#), [Mayfly in the Classroom](#)

Make a pond: [Pond creation toolkit](#)

Clean up a local waterway: [Upstream Battle](#) (Citizen Science project around in land litter – [survey guide](#))

